

IN THE DRAWINGS

The attached drawing sheet is a replacement sheet with changes made to FIG. 1A. Specifically, FIG. 1A was amended to better show the plurality of signals being outputted from the phase detector to the voltage-to-current converter.

REMARKS

I. Introduction

In response to the Office Action dated February 23, 2005, claims 1 and 11 have been amended. Claims 1-20 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Drawing Objections

In paragraph (1) of the Office Action, FIG. 1A was objected to as not showing a plurality of signals being outputted from the phase detector and converted by the voltage-to-current converter. Applicants' attorney has amended FIG. 1A as described above to overcome this objection.

III. Specification Objections

In paragraph (2) of the Office Action, the specification was objected to as using inconsistent terminology.

Applicants' attorney has made amendments to the specification as indicated above.

IV. Claim Objections

In paragraph (3) of the Office Action, claims 1 and 11 were objected to as using inconsistent terminology.

Applicants' attorney has made amendments to claims 1 and 11 as indicated above.

V. Prior Art Rejections

In paragraph (4) of the Office Action, claims 1-6 and 11-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Huang, U.S. Patent No. 6,442,225 B1 (Huang). However, in paragraph (5) of the Office Action, claims 7-10 and 17-20 were indicated as being allowable if rewritten in independent form to include the base claim and any intervening claims.

Applicants' attorney acknowledges the indication of allowable claims, but respectfully traverses the rejections.

Applicants' claimed invention is parentable over the cited reference because it recites elements not taught or suggested by the reference. Specifically, the reference does not teach or suggest a clock and data recovery circuit or method where the input data signal has a frequency different from the frequency of the clock signal, and the input data signal is re-timed and de-

multiplexed into the output data signals by the phase detector using the phases of the clock signal, such that each of the output data signals detects an edge or transition in the input data signal and whether the edge or transition is early or late with respect to its corresponding phase of the clock signal.

Huang merely describes a multi-phase-locked loop where the input data signal would have the same frequency as the clock signal. However, Huang does not teach or suggest that the input data signal is re-timed and de-multiplexed into a plurality of output data signals by the phase detector using the phases of the clock signal. Instead, the phase locked loop of Huang uses the clock phases to provide a more accurate phase error, which results in the linear adjustment of the multi-phase voltage-controlled oscillator. Specifically, Huang is only intended to eliminate dead zones.

Thus, Applicants' attorney submits that independent claims 1 and 11 are allowable over Huang. Further, dependent claims 2-9 and 12-20 are submitted to be allowable over Huang in the same manner, because they are dependent on independent claims 1, and 11, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-9 and 12-20 recite additional novel elements not shown by Huang.

VI. Conclusion

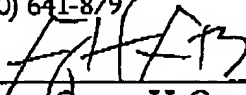
In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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